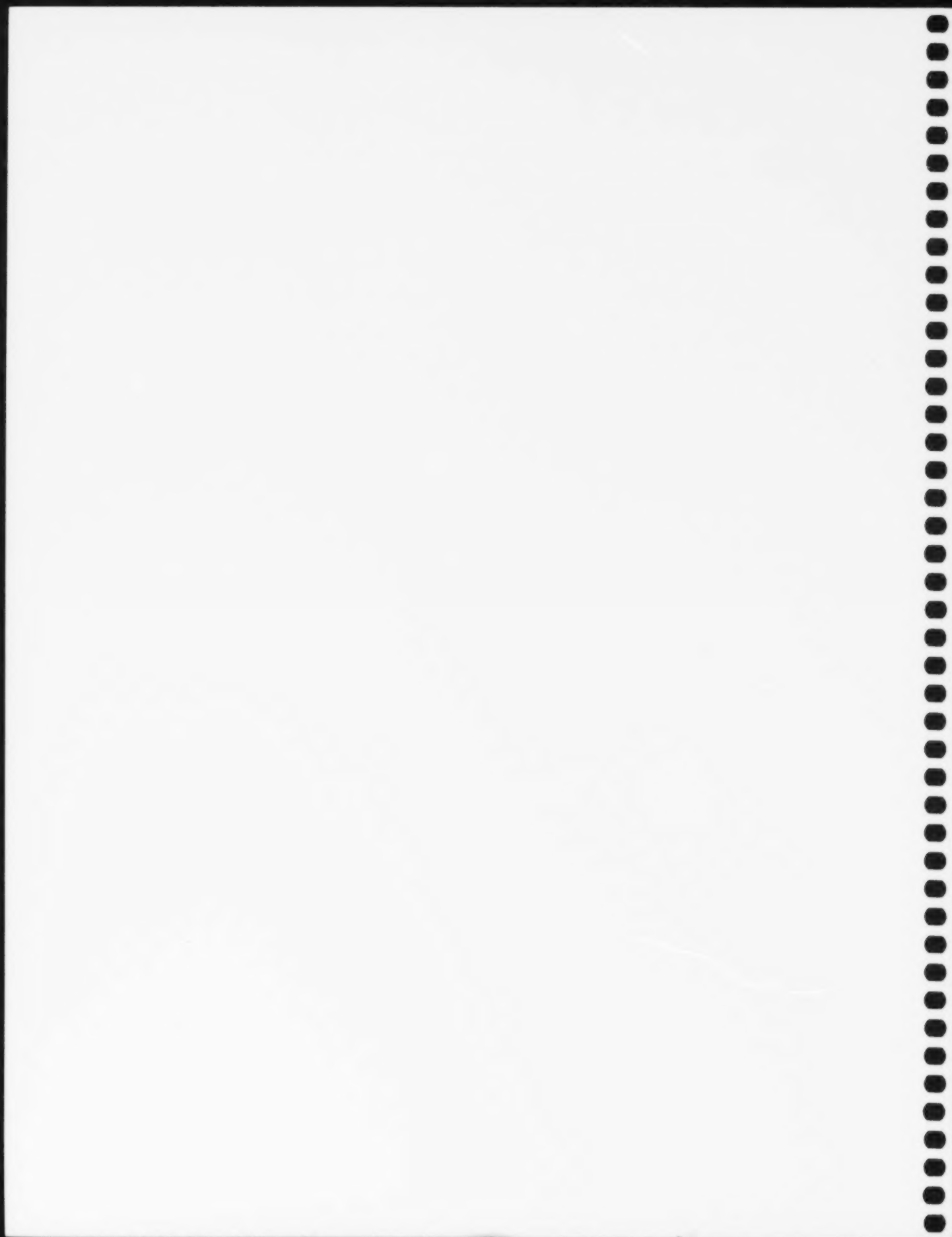


Modular Training Standards

**Basic Underground  
Soft Rock Miner –  
Common Core**

Program #770130



Ministry of Training,  
Colleges and Universities

## Modular Training Standards

# **Basic Underground Soft Rock Miner – Common Core**

**Program #770130**

Revision date: March 2005  
Printing date: October 2005

This document is the property of the trainee/  
employee named inside and represents the official  
record of his/her training.





## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **CONTENTS**

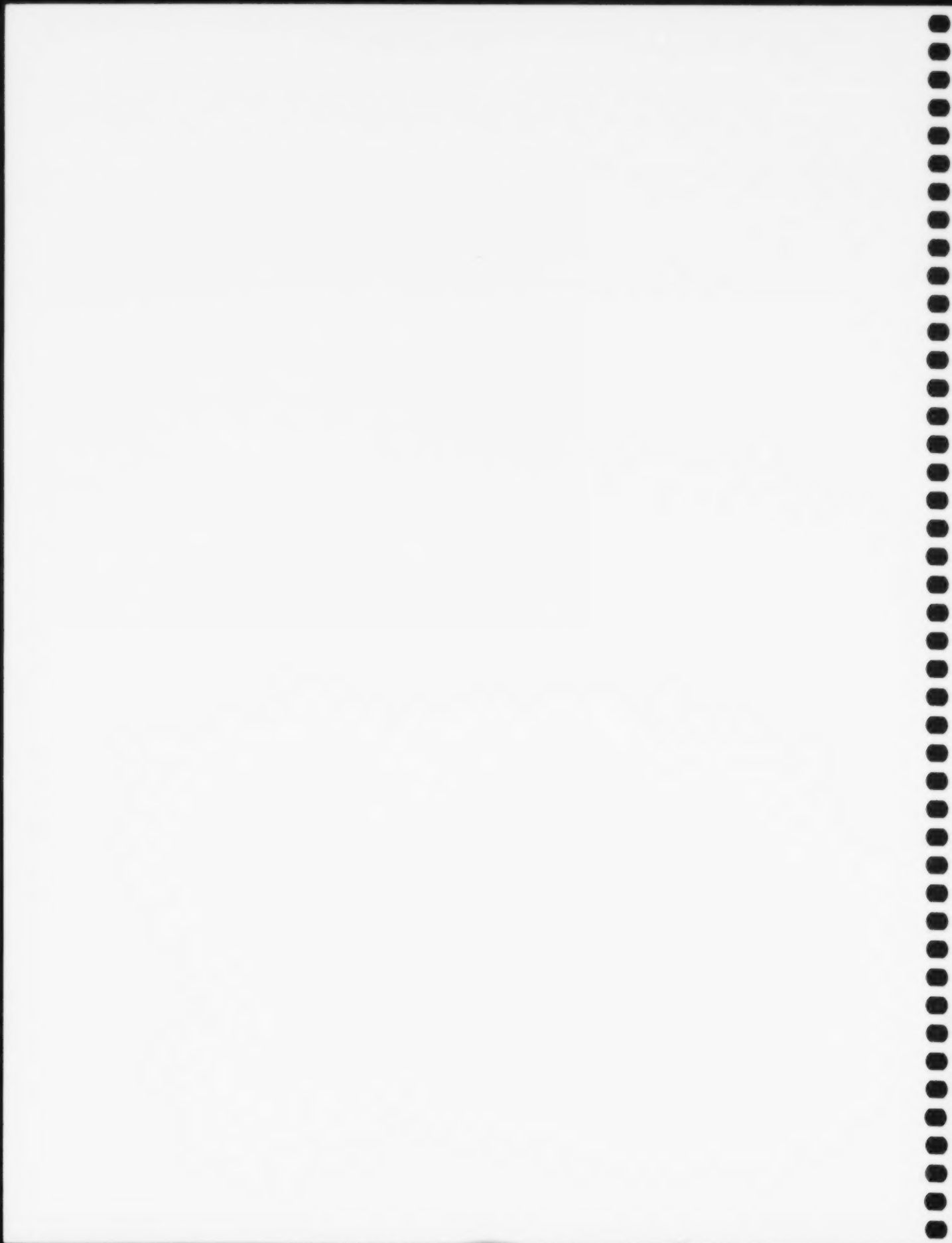
### **Page**

Competency Analysis Profile .....	1- 4
Preface .....	5-6
Accreditation/Certification .....	7
Important Directions to Trainers .....	8
List of Mining Programs .....	9
Underground Soft Rock Mining Specialty Modules Listing by Groups .....	10
Committees .....	11-12
Important Directions to the Trainee .....	13
Notice/Declaration for Collection of Personal Information .....	14
Trainee Record .....	15
Employer Information .....	16
Trainee Completion Form .....	17
Training Unit Completion Form .....	18

### **TRAINING UNITS**

#### **NUMBER     TITLE**

U5510	Follow Surface and Underground Induction Procedures .....	19-22
U5511	Perform General Inspections .....	23-26
U3126	Scale Loose Rock .....	27-29
U3127	Handle Blasting Agents, Explosives and Detonators .....	30-32
U5512	Operate Utility Vehicle - Personnel Carriers/Service Vehicles .....	33-35
U5513	Perform General Lock Out and Tag on Prime Movers and Other Related Equipment .....	36-39
U3128	Work Around Conveyors and Feeders .....	40-42
U5514	Operate Load Haul and Dump Machine .....	43-46
U5515	Set Up Continuous Miner .....	47-48
	Glossary .....	49-71



## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### AREAS OF COMPETENCY

### COMPETENCY ANALYSIS PROFILE BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE ON-THE-JOB TRAINING STANDARDS SKILLS

<b>FOLLOW SURFACE AND UNDERGROUND INDUCTION PROCEDURES</b>  <b>U5510.0</b>	Demonstrate knowledge and understanding of the IRS, the OHSA, Mining Regulations and company standards.  5510.01	Identify surface areas.  5510.02	Identify underground areas.  5510.03	Respond to surface and underground emergencies.  5510.04	Comply with company policies.  5510.05
	Comply with union contracts and joint health and safety policy.  5510.06	Identify and operate communication systems.  5510.07	Identify on-site explosive types, and follow related handling/storage procedures.  5510.08	Review use of communication devices in the vicinity of explosives.  5510.09	
<b>PERFORM GENERAL INSPECTIONS</b>  <b>U5511.0</b>	Inspect work area for unsafe ground conditions and related hazards.  5511.01	Wear, adjust and maintain personal protective equipment.  5511.02	Erect safety signs, warnings, barriers.  5511.03	Operate fire extinguishers.  5511.04	Observe air quality and ventilation flow controls.  5511.05
	Operate hand and power tools.  5511.06	Lock out and tag mobile and fixed equipment.  5511.07	Participate in emergency evacuation.  5511.08	Identify and report ground water leakage/drips.  5511.09	Practice good housekeeping in the workplace.  5511.10

**COMPETENCY ANALYSIS PROFILE**  
**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**  
**ON-THE-JOB TRAINING STANDARDS SKILLS**

2

## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### AREAS OF COMPETENCY

### COMPETENCY ANALYSIS PROFILE BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE ON-THE-JOB TRAINING STANDARDS SKILLS

<b>OPERATE UTILITY VEHICLE - PERSONNEL CARRIERS/ SERVICE VEHICLES</b>  <b>U5512.0</b>	Identify and respond to workplace hazards related to the utility vehicle.  <b>5512.01</b>	Inspect and ensure workplace is scaled.  <b>5512.02</b>	Perform pre- operational checks on utility vehicle.  <b>5512.03</b>	Start up utility vehicle.  <b>5512.04</b>	Conduct operational checks on utility vehicle.  <b>5512.05</b>
	Operate utility vehicle .  <b>5512.06</b>	Shut down utility vehicle.  <b>5512.07</b>			
<b>PERFORM GENERAL LOCK OUT AND TAG ON PRIME MOVERS AND OTHER RELATED EQUIPMENT</b>  <b>U5513.0</b>	Identify and respond to workplace hazards.  <b>5513.01</b>	Inspect and ensure workplace is scaled.  <b>5513.02</b>	Identify prime mover(s) and other related equipment to be locked out and tagged.  <b>5513.03</b>	De-energize system and other related equipment.  <b>5513.04</b>	Lock out and tag prime mover(s) and other related equipment.  <b>5513.05</b>
	Verify zero energy state.  <b>5513.06</b>	Perform work to be done.  <b>5513.07</b>	Remove lock and tag after ensuring work has been completed.  <b>5513.08</b>	Energize prime mover(s) and other related equipment.  <b>5513.09</b>	

**COMPETENCY ANALYSIS PROFILE  
BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE  
ON-THE-JOB TRAINING STANDARDS SKILLS**

<b>WORK AROUND CONVEYORS AND FEEDERS</b>	Identify and respond to workplace hazards.	Conduct conveyor inspection in specific work area.	Work from a safe location.	Stop conveyor in the event of hazards.
U3128.0	3128.01	3128.02	3128.03	3128.04

<b>OPERATE LOAD HAUL AND DUMP MACHINE</b>	Identify and respond to workplace hazards.	Perform equipment pre-operational check on load haul dump (LHD) machine.	Set-up and operate LHD machine.	Conduct operational checks on LHD machine.	Load material.
U5514.0	5514.01	5514.02	5514.03	5514.04	5514.05

Haul material.	Dump material.	Park and shut down LHD machine.
5514.06	5514.07	5514.08

<b>SET UP CONTINUOUS MINER</b>	Identify and respond to workplace hazards.	Inspect equipment.	Tram continuous miner.	Advance trailing cable.
U5515.0	5515.01	5515.02	5515.03	5515.04

## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### PREFACE

This training document was developed by the Program Development and Standards Unit of the Ministry of Training, Colleges and Universities, in consultation with representatives from the industry. These Training Standards are intended to be used by the trainee, trainers/instructors and companies as a "blueprint" for training or as a prerequisite for government accreditation/certification. While this training document is intended as a guideline for training, all issues might not apply in all operations.

A Basic Underground Soft Rock Miner is a worker who has achieved accreditation in the entire Common Core Program #770130. Under the Occupational Health and Safety Act – R.R.O Regulation 854, 11.3 the employer must provide the worker with the entire common core for Program #770130 within the first year of his/her employment. And, the appropriate prerequisite modules related to a specialty module must be taken before training in the specialty module.

The trainee will have completed the Common Core successfully only when he/she has demonstrated competency (the level of skills prescribed) in each of the following modules:

- U5510, U5511 and U3126 (Follow Surface and Underground Induction Procedures; Perform General Inspections and Scale Loose Rock);
- U5512, U5513, U3128, U5514 (Operate Utility Vehicle; Perform General Lock Out and Tag; Work Around Conveyors and Feeders; and Operate Load Haul Dump Machine);
- plus one of U3127 or U5515 (Handle Blasting Agents Explosives and Detonators or Set Up Continuous Miner).

The first three modules U5510, U5511 and U3126 are prerequisites to all other modules. They must be completed before any other modules can be done and before the employee can be permitted to work underground. Once these first three modules have been successfully completed, the order in which the other modules are trained is flexible and can vary.

New trainees or experienced miners must obtain accreditation in the same way. Each must demonstrate the skills specified in each Performance Objective to the described minimal acceptable standard as prescribed in each module. These demonstrations must be administered in an operating mine by a designated employee of the company who shall follow the Performance Demonstration Guidelines approved by the Mining Tripartite Committee.

The care and maintenance of this book is the joint responsibility of the trainee and the employer. The Training Standards were developed specifically for documenting the trainee's acquisition of skills.



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **PREFACE** - Cont'd

Areas of the Basic Underground Soft Rock Common Core including scaling, lock out and tag and handling blasting agents may infringe on some speciality modules for purposes of safety and technological changes. However, accreditation in these areas of the Common Core is not intended to replace accreditation in the speciality modules.

Throughout the document the term "including" is often used. "Including" means: one or more of the items listed, but not limited to those items included in the list.



## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### ACCREDITATION/CERTIFICATION

How to Qualify for a Certificate of Achievement and Certificate of Qualification Accreditation for Program #770130 - Underground Soft Rock Miner.

#### **Certificate of Achievement (C of A):**

To be accredited with a C of A for Program #770130 the employee must have demonstrated competency in each of the following modules from the program:

- U5510, U5511 and U3126
- plus U3128, U5512, U5513, and U5514
- plus one of U3127 or U5515 - **A total of 8 modules.**

#### **Certificate of Qualification (C of Q):**

To be accredited with a C of Q for Program #770130 the employee must have demonstrated competency in each of the following from the program:

- Full Common Core ( 8 modules),
- three Production Specialty modules and one Conveyance and Service Specialty module,
- plus any one other Specialty module - **A total of 13 modules.**

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **IMPORTANT DIRECTIONS TO TRAINERS**

Trainers instructing workers in this Common Core Program must themselves be accredited in the Basic Common Core Underground Soft Rock Program #770130. Please refer to the Program Guidelines which are available from your local Apprenticeship office.

The Training Standards identify skills required for this occupation and its related training program.

These Training Standards have been written in concise statements which describe how well a trainee must perform each skill in order to become competent.

In using these Training Standards, trainers will be able to ensure that the trainee is developing skills detailed for the occupation.

Trainers and trainees are required to sign off and date the skills following each successful acquisition.

Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement in the space provided at the end of each unit.

## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### LISTING OF MINING MODULAR PROGRAMS

- P770010 - Common Core for Basic Underground Hard Rock Miner  
- Speciality Modules for Underground Hard Rock Miner
- P770121 - Common Core for First Line Underground Mine Supervisor
- P770130 - Common Core Underground Soft Rock Miner  
- Speciality Modules for Underground Soft Rock Miner
- P770150 - Common Core for Basic Underground Diamond Driller (Helper Level)  
- Runner Level Underground Diamond Drilling
- P770200 - Surface Diamond Drilling
- P770210 - Common Core for Surface Miner  
- Specialty Modules for Surface Miner
- P770225 - Common Core for Basic Underground Hard Rock Mine Service Types
- P810050 - Common Core for Basic Mills Process Operations - Mineral Ore  
- Speciality Modules Program for Mill Process Operators - Mineral Ore
- P810080 - Common Core for Basic Smelter Operations - Mineral Ore
- P810090 - Common Core for Non-Production Workers in a Smelter Operation -  
- Mineral Ore

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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### **UNDERGROUND SOFT ROCK** **MINING SPECIALTY MODULES LISTING BY GROUPS**

#### **GROUP 1      PRODUCTION SPECIALITIES (9)**

U3141	Operate Over/Under Cutter
U3142	Operate Mechanized Jumbo Drill
U3143	Perform Loading and Blasting
U3144	Perform Mechanical and Manual Scaling
U5526	Operate Mechanized Rock Bolter
U5527	Operate Pneumatic Rock Bolter
U5528	Operate Continuous Miner Equipment
U5529	Operate Gathering Arm Loader
U5530	Operate Degassing Drill

#### **GROUP 2      CONVEYANCES AND SERVICES (4)**

U3146	Operate Haulage - Track
U3148	Operate Feeder Breaker/Crusher
U3151	Perform Underground Construction
U5535	Operate Conveyor

#### **GROUP 3      SHAFT SERVICES (5)**

U0074	Operate Friction - Mine Drum Hoist
U3147	Perform Shaft Maintenance
U5540	Operate Skip
U5541	Operate Cage
U5542	Perform Shaft Mucking

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **COMMITTEES**

The Ministry is grateful for the co-operation and contribution of the following committees in the development and maintenance of this Common Core and Specialty Skills Modules Program.

#### **Training Review and Development Committee**

##### **Labour/Worker Reps:**

Steve Patrick	Canadian Gypsum Company
Al Robb	CEP Local 16-0 (Sifto Salt)
Terry Van Lare	CAW Local 1959 (Canadian Salt Ojibway)
Jeff Wilcox	United Steel Workers of America, Local 14994 (Georgia Pacific)

##### **Management Reps:**

Tim Cassidy	Canadian Gypsum Company
Douglas D. Osborne	Canadian Salt Co. Ltd Ojibway Mine
Pierre Paquette	Sifto Salt

##### **Resource Persons:**

Randi Condie	United Steel Workers of America, Local 6500
Maurice Durocher	CAW/Mine Mill and Smelter Workers' Union, Local 598
Alan Thibert	Ministry of Labour
Michelle Foster-Chandler	Ministry of Training, Colleges and Universities

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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### Mining Tripartite Committee

#### **Labour:**

Rondi Condie, MTC Co-Chair	United Steelworkers of America, Local 6500
Mike Fleury	United Steelworkers of America, Local 6500
Fred Gervais	United Steelworkers of America, Local 6500
James Malcolm	United Steelworkers of America, Local 9422
Arno Sakki	Mine, Mill CAW/Local 598
Glen Staskus	Mine, Mill CAW/Local 598
Jeff Wilcox	United Steelworkers of America, Local 14994

#### **Management:**

Bill Krasnozon	Boart Longyear Inc.
Steve Drew	Nelson Aggregate Co.
Donna Kirkpatrick	Falconbridge Ltd.
Jamie Mortson, MTC Co-Chair	Porcupine Joint Venture
Douglas D. Osborne	Canadian Salt Co. Ltd. Ojibway Mine
Charlie Toeppner	Cementation Inc.
Brian Young	Inco - Ltd.

#### **Resource:**

Abate W. Abate	Ministry of Training, Colleges and Universities
John Blogg	Ontario Mining Association
Bernie Deck	Ontario Ministry of Labour
Michelle Foster-Chandler	Ministry of Training, Colleges and Universities
Charles Kennedy	Ontario Ministry of Labour
Pierre Paquette	Sifto Canada Inc.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **IMPORTANT DIRECTIONS TO THE TRAINEE**

#### **Trainee**

1. All hours working for each employer(s) must be recorded in the Employer Information section.
2. It is the responsibility of the trainee to inform the local Apprenticeship and Client Services Office regarding the following changes:
  - change of trainee name or address;
  - transfer to a new employer.
3. Training Reports must be signed for modular trainees by a Ministry of Training, Colleges and Universities designated Signing Authority and forwarded to a local Apprenticeship Client Services office.
4. At the completion of training, the Trainee Completion Form must be completed and signed off by the Signing Authority and submitted to local Apprenticeship and Client Services Office.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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### **NOTICE/DECLARATION FOR COLLECTION OF PERSONAL INFORMATION**

1. This information is collected under the authority of the Order-In-Council Number 701/85.
2. The information is collected for the purpose of administering this modular training program within the Province of Ontario.
3. Questions regarding collection and use of this information may be directed to:

Director of Apprenticeship  
Ministry of Training, Colleges and Universities  
Workplace Training Branch  
17<sup>th</sup> Floor, Mowat Block  
900 Bay Street  
Toronto, ON M7A 1L2  
(416) 326-5605



**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

**TRAINEE RECORD**

Trainee Name: \_\_\_\_\_

Contract Number: \_\_\_\_\_  
(If applicable)

\_\_\_\_\_

**EMPLOYER INFORMATION**

Company: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

**EMPLOYER INFORMATION**

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

**EMPLOYER INFORMATION**

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

**TRAINEE COMPLETION FORM**

Trainee Name

\_\_\_\_\_

Print

\_\_\_\_\_

Signature

Social Insurance Number

\_\_\_\_\_

Training Units when completed should be signed off by Trainer/Signing Authority on the following page and presented with this completion form to your local Apprenticeship Client Services office. Any supporting documentation should also be attached.

Employer Name:

Address:

Telephone:

Signing Authority:

\_\_\_\_\_

Signature

**MTCU USE ONLY:**

Recommended for Exam:

Yes ( )

No ( )

N/A ( )

\_\_\_\_\_

Signature

\_\_\_\_\_

Consultant/Office Code

**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

**TRAINING UNIT COMPLETION FORM**

<b>TRAINING UNITS</b>	<b>TITLE</b>	<b>SIGNING AUTHORITY</b>
<b>U5510</b>	<b>Follow Surface and Underground Induction Procedures</b>	
<b>U5511</b>	<b>Perform General Inspections</b>	
<b>U3126</b>	<b>Scale Loose Rock</b>	
<b>U3127</b>	<b>Handle Blasting Agents, Explosives and Detonators</b>	
<b>U5512</b>	<b>Operate Utility Vehicle - Personnel Carriers/Service Vehicles</b>	
<b>U5513</b>	<b>Perform General Lock Out and Tag on Prime Movers and Other Related Equipment</b>	
<b>U3128</b>	<b>Work Around Conveyors and Feeders</b>	
<b>U5514</b>	<b>Operate Load Haul and Dump Machine</b>	
<b>U5515</b>	<b>Set up Continuous Miner</b>	

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## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

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### U5510.0 FOLLOW SURFACE AND UNDERGROUND INDUCTION PROCEDURES

#### GENERAL PERFORMANCE OBJECTIVE

Follow surface and underground induction procedures, by demonstrating knowledge and understanding of the Internal Responsibility System (IRS), the Occupational Health and Safety Act (OHSA), Mining Regulations and company standards; identifying surface and underground areas; responding to surface and underground emergencies; complying with company policies, union contracts and joint health and safety policy; identifying and operating communication systems; identifying on-site explosive types and following related handling/storage procedures; and reviewing use of communication devices in the vicinity of explosives according to government legislation, company standards and manufacturer specifications.

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#### PERFORMANCE OBJECTIVES

Trainer's Name (Print)

Trainee's Name (Print)

\_\_\_\_\_

\_\_\_\_\_

#### SKILLS

5510.01 Demonstrate knowledge and understanding of the Internal Responsibility System (IRS), the Occupational Health and Safety Act (OHSA), Mining Regulations and company standards, by applying them in the workplace.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5510.0 FOLLOW SURFACE AND UNDERGROUND INDUCTION PROCEDURES - Cont'd**

5510.02 Identify surface areas, including: Security, First Aid, Health and Safety Office, Hoist Room, Stores/Warehouse, Material Safety Data Sheets (MSDS), Engineering Offices, Mine Dry, Main Office, Union Office, Central Control Room, Accounting and Payroll, Supervisor Area, Occupational Health and Safety Act (OHSA) location, Wickets, Lamp Room, Tag In and Out Boards and Emergency Notification System to ensure familiarity with surface layout according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5510.03 Identify underground areas, including: tramming/travel routes, ramp layouts, traffic controls, escape ways, manways, shaft stations, substations, refuge stations/gathering areas, emergency pumps, battery charging stations, ore and waste pass systems, cage call systems, central blast systems, communication systems, air, water and electrical sub/power rooms, lunch rooms, latrines, switch rooms, shops, fuel, wash and safety bays, garages, service bays, fire and ventilation doors, ventilation control boards, material storage, powder and cap magazine storage, tire storage, and specific work sites to ensure familiarity with underground locations and systems according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5510.0 FOLLOW SURFACE AND UNDERGROUND INDUCTION PROCEDURES - Cont'd**

5510.04 Respond to surface and underground emergencies, including: fires, in rush of water, critical event or injury, by following procedures including: identifying escapeways, evacuation routes, fire doors, emergency plan, designated smoking areas; identifying incidents, injuries and reporting obligations; wearing protective clothing and cap lamps; operating fire suppression systems; observing shift schedules and fire regulations; and following cage loading and conduct guidelines, to ensure safety of self and others according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5510.05 Comply with company policies, including: safety programs/systems, harassment/discrimination, discipline, written procedures, tagging in and out, and working alone procedures; and locating manuals according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5510.06 Comply with union contracts and joint health and safety policy, by identifying union representatives, worker health and safety representatives and certified member(s); and indicating the location of their offices/work locations according to the collective agreement, government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5510.0 FOLLOW SURFACE AND UNDERGROUND INDUCTION PROCEDURES - Cont'd**

5510.07 Identify and operate communication systems, including: cell phones, pager phones, radios, cage call systems, telephones, underground communication means, bulletin boards, safety signs, information boards according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
----------------	---------------------	---------------------

_____	_____	_____
-------	-------	-------

5510.08 Identify on-site explosive types, and follow related handling/storage procedures according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
----------------	---------------------	---------------------

_____	_____	_____
-------	-------	-------

5510.09 Review use of communication devices, in the vicinity of explosives, according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
----------------	---------------------	---------------------

_____	_____	_____
-------	-------	-------

_____	Employer's Name	Employer's Signature
-------	-----------------	----------------------

_____	_____	_____
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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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### **U5511.0      PERFORM GENERAL INSPECTIONS**

#### **GENERAL PERFORMANCE OBJECTIVE**

Perform General Inspections, by inspecting work area for unsafe ground conditions and related hazards; wearing, adjusting and maintaining personal protective equipment; erecting safety signs, warnings and barriers; operating fire extinguishers; observing air quality and ventilation flow controls; operating hand and power tools; locking out and tagging mobile and fixed equipment; participating in emergency evacuation; identifying and reporting ground water leakage/drips; and practicing good housekeeping in the workplace according to government legislation, company standards and manufacturer specifications.

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#### **PERFORMANCE OBJECTIVES**

Trainer's Name (Print)

Trainee's Name (Print)

\_\_\_\_\_

\_\_\_\_\_

#### **SKILLS**

5511.01      Inspect work area for unsafe ground conditions and related hazards, by performing visual inspections according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5511.0      PERFORM GENERAL INSPECTIONS - Cont'd**

- 5511.02      Wear, adjust and maintain personal protective equipment, including: eye, hand, foot, head, hearing, self rescuer, miner's cap lamp, retro-reflective outerwear, respiratory, skin and body coverings, fall arrest and travel restraint systems, to ensure optimum fit and protection to wearer for the task being performed according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 5511.03      Erect safety signs, warnings, barriers, including: information, direction, cautionary, and danger, by identifying hazards; and isolating area to prevent personal injury and to inform employees of potential hazards according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 5511.04      Operate fire extinguishers, including: A, B, C, D and ABC units, to control and/or put out fires including: paper, wood, trash, combustible and flammable liquids, lubricants, paints and electrical according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5511.0 PERFORM GENERAL INSPECTIONS - Cont'd**

5511.05 Observe air quality and ventilation flow controls, by identifying and visually inspecting condition of doors, bulkheads/barricades, gas detectors, monitors and fans; adhering to instructions and posted markings; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5511.06 Operate hand and power tools, including: axes, wrenches, knives, picks, grinders, shovels, scaling bars, chainsaws, air tools and drills, so that the tool selected is suitable for the job, in good condition, and has guards in place, so that no injury results to the worker or damage to the tool according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5511.07 Lock out and tag mobile and fixed equipment, including: conveyors, chutes, loading pockets, crushers, load haul dump (LHD) equipment and drill rigs for repair/service/inspection and maintenance, by shutting down the equipment; and reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5511.0 PERFORM GENERAL INSPECTIONS - Cont'd**

5511.08 Participate in emergency evacuation, by being aware of refuge stations/gathering areas, fire and emergency procedures, escape way locations, routes and markings to ensure safety of self and others according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

5511.09 Identify and report ground water leakage/drips, by performing visual inspection; and reporting deficiencies according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

5511.10 Practice good housekeeping in the workplace, by cleaning up spills and/or leaks; maintaining a clean work area free of obstructions; and storing tools and equipment to minimize hazards to self and others according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
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Employer's Name

Employer's Signature

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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U3126.0 SCALE LOOSE ROCK**

**GENERAL PERFORMANCE OBJECTIVE**

Scale loose rock, by identifying and responding to loose and abnormal ground conditions; identifying and responding to faulty ground support; identifying and responding to workplace hazards; inspecting rock and preparing for scaling; scaling rock and identifying and responding to unsafe ground according to government legislation, company standards and manufacturer specifications.

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**PERFORMANCE OBJECTIVES**

Trainer's Name (Print)

Trainee's Name (Print)

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**SKILLS**

3126.01 Identify and respond to loose and abnormal ground conditions, including: faults, slips, shale, rock noises, brows, bellies, jointing and contacts, by conducting visual and sounding inspections; sounding and scaling with scaling bar; isolating area; and reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U3126.0 SCALE LOOSE ROCK - Cont'd**

- 3126.02 Identify and respond to faulty ground support, including: deformed plates, cracked cement/shotcrete, rock filled and/or broken screens, cracked timber, dry rot, guardian angels, bulging screen, spalling, fallen plates and snapping/popping noises, shearing bolts, by conducting visual and sounding inspections; listening for rock noises; isolating area and reporting deficiencies according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 3126.03 Identify and respond to workplace hazards, including: ground conditions, ventilation, and housekeeping, by isolating area; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 3126.04 Inspect rock and prepare for scaling, by selecting scaling bar for specific job based on length, metal type, size and condition and; repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 3126.05 Scale rock, using scaling bar for specific job based on length, metal type, size and condition, by sounding the area to be scaled; following scaling procedures within your capabilities to remove loose and to ensure safety of self and others according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U3126.0 SCALE LOOSE ROCK - Cont'd**

3126.06 Identify and respond to unsafe ground, by isolating affected area; and reporting unsafe ground conditions to your supervisor to ensure safety of self and others according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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Employer's Name

Employer's Signature

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## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### **U3127.0      HANDLE BLASTING AGENTS, EXPLOSIVES AND DETONATORS**

#### **GENERAL PERFORMANCE OBJECTIVE**

Handle Blasting Agents, Explosives and Detonators, by selecting and wearing personal protective equipment; following safety procedures; identifying/selecting/handling/transporting/storing blasting agents, explosives and detonators; and working/travelling in area of the blast according to government legislation, company standards and manufacturer specifications.

#### **PERFORMANCE OBJECTIVES**

Trainer's Name (Print)

Trainee's Name (Print)

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#### **SKILLS**

- 3127.01      Select and wear personal protective equipment related to the use, handling and storage of blasting agents, explosives and detonators, including: gloves, face shield, disposable coveralls, rubber boots and rubber aprons according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 3127.02      Follow safety procedures related to the use, handling and storage of blasting agents, explosives and detonators, including: no smoking in area, use of non-ferrous materials, no fire or open flame, no use of communication devices in immediate area according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U3127.0 HANDLE BLASTING AGENTS, EXPLOSIVES AND DETONATORS - Cont'd**

- 3127.03 Identify and select blasting agents, explosives and detonators, including: stick powder, bulk explosives, electric and non-electric blasting caps, boosters, detonator cords, safety fuses, by performing a visual observation; and following handling procedures according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 3127.04 Handle blasting agents, explosives and detonators, using protective equipment related to blasting agents, including non-ferrous tools and antistatic devices; following lifting procedures including: no sliding of blasting boxes; and reporting amount of blasting agents, explosives and detonators used according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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- 3127.05 Transport blasting agents, explosives and detonators, using suitable separate containers, by ensuring good operating condition of grounded vehicles; securing the load; observing load limitations; following the rules of the road and designated travel routes and; using warning devices according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U3127.0      HANDLE BLASTING AGENTS, EXPLOSIVES AND DETONATORS -**  
Cont'd

3127.06      Store blasting agents, explosives and detonators, in approved storage area, by ensuring storage areas are free of hazards; observing posted limitations on permits/notices; securing and locking magazines; and reporting amounts of blasting agents, explosives and detonators used according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
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3127.07      Work/Travel in area of blast, by observing current blasting procedures; obeying instructions of the guard; observing guard procedures; vacating the area of the blast as required or directed and; following warning and time limits according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
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## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

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### U5512.0 OPERATE UTILITY VEHICLE - Personnel Carriers/Service Vehicles

#### GENERAL PERFORMANCE OBJECTIVE

Operate utility vehicle (personnel carriers/service vehicles), to transport materials and/or personnel, by identifying and responding to workplace hazards related to the utility vehicle; inspecting and ensuring workplace is scaled; performing pre-operational checks on utility vehicle; starting up utility vehicle; conducting operational checks on utility vehicle; operating and shutting down utility vehicle according to government legislation, company standards and manufacturer specifications.

**Note: For Program #770130, this Common Core module, U5512 is a prerequisite to any specialty module that includes operating *mobile* equipment.**

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#### PERFORMANCE OBJECTIVES

Trainer's Name (Print)

Trainee's Name (Print)

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#### SKILLS

- 5512.01 Identify and respond to workplace hazards related to the utility vehicle, by inspecting area, ground conditions, ventilation, housekeeping; isolating area; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5512.0 OPERATE UTILITY VEHICLE - Cont'd**

5512.02 Inspect and ensure workplace is scaled, by visually checking the face; performing scaling procedures as required; checking ventilation flow; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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5512.03 Perform pre-operational checks on utility vehicle, by testing power source; checking fluid levels; following refueling and lubricating procedures; inspecting principle components, including: steps and handrails, canopy/cab, chassis, engine/power source, power train, hydraulic cylinders and systems, controls, wheel chocks, lighting, audio and visual warning and communication systems; visually inspecting fire extinguishers and fire suppression systems; inspecting tire and rim assemblies; using 3 point contact while mounting and dismounting; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5512.04 Start up utility vehicle, by activating power source; using audio and visual warning systems and signals; observing equipment operation, gauges and load limits; checking for clearances and activity in area; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5512.0 OPERATE UTILITY VEHICLE - Cont'd**

5512.05 Conduct operational checks on utility vehicle, by monitoring gauges and metres, including: oil and air pressure, lights and warning systems, temperature, alternator output, transmission and torque pressure; listening for unusual noises in engine/power train; inspecting steering; testing brakes; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5512.06 Operate utility vehicle, by ensuring clearances and clear vehicle path; complying with rules of the road, speed limits, traffic signs and signals; ensuring trailer hitches are secure; observing load limitations; securing load; selecting gears for ramps; testing brakes prior to entering ramps; ensuring vehicle is immobile during loading/unloading of materials/personnel; following procedures for transporting explosives as required; maintaining road ways; ensuring required ventilation; noting direction of ventilation flow and position of ventilation/fire doors; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5512.07 Shut down utility vehicle, by positioning vehicle in designated/approved area; setting park brake; shutting off power; applying wheel chocks as required; completing operator report; locking out and tagging if required; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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Employer's Name

Employer's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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### **U5513.0      PERFORM GENERAL LOCK OUT AND TAG ON PRIME MOVERS AND OTHER RELATED EQUIPMENT**

#### **GENERAL PERFORMANCE OBJECTIVE**

Perform general lock out and tag on prime movers and other related equipment, by identifying and responding to workplace hazards; inspecting and ensuring workplace is scaled; identifying prime movers and other related equipment to be locked out and tagged; de-energizing system and other related equipment; locking out and tagging prime movers and other related equipment; verifying zero energy state; performing work to be done; removing lock and tag after ensuring work has been completed; and energizing prime movers and other related equipment according to government legislation, company standards and manufacturer specifications.

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#### **PERFORMANCE OBJECTIVES**

Trainer's Name (Print)

Trainee's Name (Print)

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#### **SKILLS**

5513.01      Identify and respond to workplace hazards, including: ground conditions, ventilation, open holes above/below, and housekeeping, by isolating area; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5513.0 PERFORM GENERAL LOCK OUT AND TAG ON PRIME MOVERS AND OTHER RELATED EQUIPMENT - Cont'd**

5513.02 Inspect and ensure workplace is scaled, by visually checking the face/work area; performing scaling procedures as required; checking ventilation flow; taking corrective action; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5513.03 Identify prime mover(s) and other related equipment to be locked out and tagged for repair, maintenance, inspection and/or clean up, including: air/water lines and the following forms of energy, including: hydraulic, kinetic, radiation, stored, pneumatic, gravity, electrical, mechanical, chemical and thermal, by reviewing layouts/drawings; performing visual inspection; repairing and/or reporting deficiencies; and following instructions according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5513.04 De-energize system and other related equipment to ensure a zero energy state, by operating stop button, selector switches, pedals, valves and levers; opening disconnects/breakers; following communication procedures to ensure safety of self and others and; repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### **U5513.0      PERFORM GENERAL LOCK OUT AND TAG ON PRIME MOVERS AND OTHER RELATED EQUIPMENT - Cont'd**

- 5513.05      Lock out and tag prime mover(s) and other related equipment to maintain a zero energy state and to prevent unexpected movement, energization, start-up or release of stored energy, by installing lock(s) and tag(s) securely; installing blocking devices if required; following communication procedures to ensure safety of self and others; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 5513.06      Verify zero energy state to prevent unexpected movement, energization, start-up or release of stored energy, by attempting to operate/energize equipment/machinery/devices/controls in the workplace and by other available means, including: programmable logic controllers (PLCs) and remote controls; following verification procedures; operating start button, selector switches, pedals, valves and levers; using test equipment; monitoring devices/gauges; performing visual inspections; following communication procedures; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 5513.07      Perform work to be done while prime mover(s) and other related equipment/machinery is blocked if required and locked out and tagged securely during service, inspection, clean up, maintenance/repair on machines, equipment, systems or processes; and repair and/or report deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U5513.0      PERFORM GENERAL LOCK OUT AND TAG ON PRIME MOVERS  
AND OTHER RELATED EQUIPMENT - Cont'd**

5513.08      Remove lock and tag after ensuring work has been completed, by following communication procedures to ensure safety of self and others; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

5513.09      Energize prime mover(s) and other related equipment, by activating power supplies; removing blocking devices; operating start button, selector switches, pedals, valves and levers; closing disconnects/breakers; following communication procedures to ensure safety of self and others; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
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Employer's Name	Employer's Signature
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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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### **U3128.0      WORK AROUND CONVEYORS AND FEEDERS**

#### **GENERAL PERFORMANCE OBJECTIVE**

Work around conveyors and feeders, by identifying and responding to workplace hazards; conducting conveyor inspection in specific work area; working from a safe location; and stopping conveyor in the event of hazards according to government legislation, company standards and manufacturer specifications.

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#### **PERFORMANCE OBJECTIVES**

Trainer's Name (Print)

Trainee's Name (Print)

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#### **SKILLS**

3128.01      Identify and respond to workplace hazards, including: loose or torn clothing, ground conditions, ventilation, and housekeeping, by isolating area; wearing retro-reflective outerwear; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U3128.0 WORK AROUND CONVEYORS AND FEEDERS - Cont'd**

3128.02 Conduct conveyor inspection in specific work area, by inspecting principle components, including: feed and discharge chutes, conveyor belts, drive mechanisms and guards, braking systems, pulleys and idlers, controls, warning systems and level sensors, scrapers, impact rollers, lubrication, belt tension alignment and condition, safety devices, supports, pull cord/station, magnet/metal detector, spillage removal system, communication systems, and dust control; ensuring required ventilation; noting direction of ventilation flow and position of ventilation/fire doors; visually inspecting fire extinguishers and fire suppression systems and nozzles; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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3128.03 Work from a safe location, by following procedures, including: not riding on or touching conveyor, or reaching near moving parts; using personal protective equipment; ensuring pull cords are in place, readily accessible, functioning and secured; maintaining good housekeeping; crossing over and under belts/structures only at designated areas; removing jams with conveyor locked out and tagged; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U3128.0      WORK AROUND CONVEYORS AND FEEDERS - Cont'd**

3128.04      Stop conveyor in the event of hazards, including: foreign materials, dust and fly muck, smoke/fumes/fire, defective guards, damaged safety devices or belt, by controlling spills; shutting down power source; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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Employer's Name

Employer's Signature

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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U5514.0      OPERATE LOAD HAUL DUMP MACHINE**

**GENERAL PERFORMANCE OBJECTIVE**

Operate load haul dump (LHD) machine, by identifying and responding to workplace hazards; performing equipment pre-operational checks on LHD machine; setting up and operating LHD machine; conducting operational checks on LHD machine; loading/hauling/dumping material; and parking and shutting down LHD machine according to government legislation, company standards and manufacturer specifications.

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**PERFORMANCE OBJECTIVES**

Trainer's Name (Print)

Trainee's Name (Print)

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**SKILLS**

5514.01      Identify and respond to workplace hazards, including: ground conditions, ventilation, and housekeeping, by isolating area; wearing required retro-reflective outerwear; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5514.0 OPERATE LOAD HAUL DUMP MACHINE - Cont'd**

- 5514.02 Perform equipment pre-operational checks on load haul dump (LHD) machine, by testing power source; checking fluid levels; following refuelling and lubricating procedures; checking principle components, including: chassis, body, engine/power source, power train, controls, bucket/box, wheel assembly, trailing cable, lighting and warning systems; performing visual inspection of fire extinguishers and fire suppression systems; inspecting tires, rims and wheel nut assemblies; inspecting braking system and chassis; locking out and tagging machine; using 3 point contact while mounting and dismounting; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
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- 5514.03 Set-up and operate LHD machine, including air, electric, and diesel powered equipment, by turning on power; obeying speed limits, traffic signs and regulations; selecting gears for inclines/slopes/ramps; noting direction of ventilation flow and position of ventilation/fire doors; reporting deficiencies; observing equipment operation and load limits; and checking clearance and activity in area to ensure safety of self and others according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

- 5514.04 Conduct operational checks on LHD machine, by monitoring gauges and metres, including: oil and air pressure, temperature, alternator output, transmission and torque pressure; listening for unusual noises in engine/power train; inspecting/testing steering and brakes; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5514.0 OPERATE LOAD HAUL DUMP MACHINE - Cont'd**

5514.05 Load material, using bucket or box within LHD equipment limitations, by ensuring load and equipment path clearance; identifying and reporting the presence of explosives and disposing of foreign material; maintaining muck/material piles; and repairing and/or reporting ventilation deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5514.06 Haul material, with load secured, by ensuring clearance and clear machine path; complying with speed limits, traffic signs and signals; repairing and/or reporting ventilation deficiencies; maintaining road ways and dump areas; and noting direction of the ventilation flow and position of ventilation/fire doors to ensure safety of self and others according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5514.07 Dump material, by positioning vehicle at dump site; ensuring stable ground conditions; and inspecting bumper block and/or dump walls to ensure safety of self and others according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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**BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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**U5514.0      OPERATE LOAD HAUL DUMP MACHINE - Cont'd**

5514.08      Park and shut down LHD machine, by positioning vehicle in designated area; positioning/lowering bucket to ground/rib where applicable; setting park brake; setting wheel chocks as required; protecting equipment; completing operator report; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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Employer's Name

Employer's Signature

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## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

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### U5515.0 SET UP CONTINUOUS MINER

#### GENERAL PERFORMANCE OBJECTIVE

Set up continuous miner, by identifying and responding to workplace hazards; inspecting equipment; tramming continuous miner and; advancing trailing cable according to government legislation, company standards and manufacturer specifications.

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#### PERFORMANCE OBJECTIVES

Trainer's Name (Print)

Trainee's Name (Print)

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#### SKILLS

- 5515.01 Identify and respond to workplace hazards, including: ground conditions, ventilation, and housekeeping, by isolating area; inspecting equipment; wearing retro-reflective outerwear and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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- 5515.02 Inspect equipment, by performing a circle check on the continuous miner to ensure machine is in working order; checking tramming tracks and trailing cable; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed

Trainer's Signature

Trainee's Signature

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## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

### **U5515.0 SET UP AND POSITION CONTINUOUS MINER - Cont'd**

5515.03 Tram continuous miner, by determining position of cutter head; ensuring trailing cable is away from tramming tracks or at maximum extension; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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5515.04 Advance trailing cable, by ensuring cable is anchored before the power source; locking out and tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed

Trainer's Signature

Trainee's Signature

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Employer's Name

Employer's Signature

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## BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE

### GLOSSARY OF MINING TERMS

AIR BAG:	An Inflatable rubber, balloon-like device that can be used to lift heavy objects.
AIR BLAST:	A wave or rush of air that results when there is an underground explosion or a collapse of rock.
AIRLIFT:	A pump that moves water when air is forced into the pump's chamber. (Compressed air is introduced into the discharge pipe, and as the water and air rise, the air expands until it is almost at atmospheric pressure.)
ANCHOR RAIL:	<ol style="list-style-type: none"><li>1. A rail to which ore cars are attached prior to dumping in order to prevent them from tipping.</li><li>2. A rail buried in fill to anchor a slusher.</li><li>3. A rail holding down stationary equipment.</li><li>4. An alimak rail.</li></ol>
ANFO:	A blasting agent made up of ammonium nitrate and fuel oil.
ARCH or ARCHING:	The rock structure left at the intersection of the walls and back to help support the back. (Curved back formations might result naturally due to the caving of the rock or might be designed as a circular or elliptical support.)
AUXILIARY VENTILATION:	Mechanical ventilation system used to deliver air into a workplace off the main air stream e.g into a dead end heading. Ventilation that is generated by auxiliary fans.
BACK/ROOF:	The roof, ceiling or upper part of any underground excavation or cavity.
BACK BLOCKING:	A method of holding mine timber sets in place or blocking to support the back.
BACKFILL:	Waste rock, cement, gravel, sand or tailings used to refill and provide support to an excavation or stope following the removal of ore.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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BALANCED HOISTING:	A conventional system of hoisting cages or skips from one horizon to another. When one cage or skip goes up, another cage or skip goes down.
BALLAST:	Broken rock, sand or other heavy material that provides a solid, stable base for structures or railway ties.
BARRICADE:	A closure/restriction to any mine opening.
BARRING:	Rearranging or moving out broken muck using a suitable bar.
BASE METALS:	Common non-precious metals, such as zinc, iron, copper, nickel or lead.
BASE OF RAIL:	The bottom elevation of a drift.
BEARERS or BEARING SETS:	Heavy lengths of square-set timber or steel placed in mine opening to stabilize or support the surrounding rock.
BEAT:	A portion or area of mine under the supervision of a specific individual e.g. an area being managed or supervised by a shift boss.
BED:	A cushion of broken muck or rock ballast.
BEDDING:	Flat lying seams occurring among stratified rock and parallel to the stratification.
BELLCORD:	The line attached to a signaling device, used to send signals for the operation of the shaft conveyance or tugger hoist.
BENCH:	A horizontal ledge or step (sometimes called a seam) which forms a single level of operation. Also a section of rock that has open faces on top and on one or more sides.
BERM:	A ridge or ledge that might be used as along a haulage way to prevent inadvertent entry.
BIN:	A box or container used for storing tools, ore, rock or other items.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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<b>BIT:</b>	The cutting edge, usually chisel shaped, of drill steel. The bit may be part of the drill steel or a detachable portion of the drill steel. The bit breaks or crushes the rock as the drill steel rotates. Bits are usually made of ultra-hard materials, such as tungsten-carbide or diamonds.
<b>BLAST or BLASTING:</b>	To use explosives or blasting agents to break rock or other material.
<b>BLASTING AGENT:</b>	An explosive material designed to be used in the blasting process.
<b>BLAST HOLE:</b>	A drilled hole the explosive charge or blasting agent is placed in.
<b>BLOCK:</b>	A mass section or area of ore exposed by underground workings. Also refers to a pulley.
<b>BLOCKING OUT:</b>	The process of exposing an ore body by systematic core drilling or by developing openings on a minimum of three sides.
<b>BLOCK HOLING:</b>	Drilling large boulders and blasting them with small charges.
<b>BLOW OUT:</b>	Failure of a shot or blast to break the rock. Also referred to as a blowout shot.
<b>BLOWING OUT:</b>	Cleaning out a drilled hole using a blow pipe usually in preparation for blasting.
<b>BOGIE:</b>	<ol style="list-style-type: none"><li>1. The forward half of a center articulated mobile equipment.</li><li>2. A rail-truck used to move material.</li></ol>
<b>BOOM:</b>	Physical extension to a piece of equipment.
<b>BOOMING OUT:</b>	Positioning machinery booms e.g Jumbo Booms\timbering out.
<b>BOOTLEG:</b>	Bottom portion of a remnant of a blasted hole.
<b>BOREHOLE:</b>	Any large diameter bored hole.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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BRATTICE:	<ol style="list-style-type: none"><li>1. Wall of cloth, plank, steel or concrete block lining commonly used for ventilation.</li><li>2. Material used to divide vertical sections in compartments of a shaft.</li></ol>
BREAK:	The effect or result of an underground blast. A <i>good break</i> describes well-broken ground.
BREAKTHROUGH:	A drift being developed that breaks into an existing opening.
BREAST:	A face or heading that is being undercut.
BUDDY:	Work partner is the term more commonly used.
BUGGY:	A small wagon, car or truck used to transport heavy materials over short distances.
BULKHEAD:	A structure for the impoundment of water, compressed air, hydraulic backfill or any material in an underground opening where the potential pressure against the structure will be in excess of 100 kilopascals.
BULK SAMPLE:	A large representative sample that has been taken from many tons of material.
BULLHORN:	A large steel pin shaped like a bull's horn that is placed in a drilled hole and used for hanging equipment or securing timber.
BULLHOSE:	A large air hose used when air operated equipment needs a large volume of air.
BURDEN:	The measured space between a blasthole and the nearest open face, or the perpendicular distance between blast holes that, as the explosives are initiated, will become open faces. Sometimes the burden refers to the cubic measure or tons of material to be blasted.
BURLAP:	A strong, tightly woven jute, hemp or cotton material used for straining tailings. The particles will remain and the liquids escape. For underground use, a plastic material has replaced burlap.



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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BURN or SHATTER CUTS:	A parallel pattern of drill-holes, usually 6" to 12" deep, used to develop a free face. One or more of the holes remain uncharged. Some of the uncharged holes are reamed to a larger diameter.
CABLE BOLTING:	A method of reinforcing by cementing stranded cable in a drillhole.
CABLE LACING:	A method of reinforcing rockburst prone areas by placing cable over screen. In the event of a rockburst, the cables will reinforce the existing support system.
CACHE:	An underground location where supplies are hidden or stored.
CAGE:	A box-like enclosure used in a mine shaft to transport or convey men and materials to and from various working levels.
CAGE GUIDES:	Fixed timber runners, fixed steel-tube runners, or wire rope used to track or guide a cage as it moves up or down a mine shaft.
CANOPY/HOOD:	<ol style="list-style-type: none"><li>1. A protective covering above the conveyance for protection of workers.</li><li>2. A covering on equipment to protect workers and equipment.</li></ol>
CAPS:	Load-bearing horizontal plank or timber used in a two or three-member timber set. Also a small cylinder which contains a detonating mixture and is linked to a fuse or electric current. Also see detonators.
CAR OR MINE CAR:	A wheeled carriage used to transport cargo or broken rock.
CASING:	Tubing inserted into a drillhole to make the hole more stable.
CATCH PIT/FENCE:	A construction of wood and filter material used to drain water and containing slimes and sand spillage from a fill pour. In shaft sinking, also known as a CATCH BASIN.
CAVE OR CAVE-IN:	The partial or complete collapse or failure of walls, backs or rock pillars. A cave-in can be caused by the pressure exerted by the surrounding mass of rock.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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CAVING:	A mining method that involves breaking the ore by inducing a cave-in. There are variations of caving, including block caving, sub-level caving, top slicing, longwall, and room and pillar.
CENTRAL BLAST:	A remote blasting system.
CENTRAL CONTROL:	Centralized control room.
CENTRALIZER:	A device used to line up a drill steel when collaring or starting drill holes.
CEMENTED ROCKFILL:	A combination of broken rock and cement that is used to backfill underground openings. The fill supports the walls of the opening or provides a working floor.
CEMENTED TAILINGS FILL:	A combination of finely ground waste rock and cement that is used to backfill underground openings. The fill supports the walls of the opening or provides a working floor.
CHAIR(S):	Movable supports used for the cage or used to support the cage at the correct elevation.
CHANGE HOUSE:	A mine building mining personnel use to change into and out of their working clothes. Also called a 'dry'.
CHARGE:	<ol style="list-style-type: none"><li>1. An explosive and a detonator, or</li><li>2. An explosive, a detonator and a primer that is exploded as a single unit.</li></ol>
CHARGING STATION:	An underground room or chamber used specifically for charging and exchanging locomotive batteries. Also called a charging room.
CHUTE/MILLHOLE/ ORE PASS:	A steeply inclined passage used to move ore from one elevation to a lower elevation. The term chute is used to identify the ore passage and the control position situated at the bottom of the passage. The term millhole is used to define the constructed portion of the passage above the headblock (timber or steel across the chute opening.)
CHUTE:	A device used to direct/control the flow of material elevation.



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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CLAIM:	An area or portion of land a person has defined by stakes. To hold mineral rights for the claim it must be reported to the appropriate government office.
CLAM:	Mechanical equipment used for mucking in shaft sinking operations.
CLEAT:	A piece of wood nailed to a timber or other structure intended as support.
COLLAR:	<ol style="list-style-type: none"><li>1. The timbering or concrete around the shaft.</li><li>2. The start of a drill hole.</li></ol>
COLLARING:	<ol style="list-style-type: none"><li>1. The process of beginning the drilling of a hole.</li><li>2. The process of beginning an excavation of a mine shaft.</li></ol>
COME-A-LONG:	A hand operated ratchet block lifting device.
COMPARTMENT:	A shaft division formed by dividers.
CONCURRENT BACKFILLING:	Placing backfill into an underground opening immediately after the ore or rock has been moved.
CONTINUOUS MINER:	A mechanized mining machine.
CONVEYOR BELT:	A mechanical device, usually electrically driven belt, which extends from a receiving point to a discharge point and conveys material between those two points.
CORE:	Cylindrical shaped section of minerals or rock that has been extracted or recovered by diamond drilling. A core reveals the various strata of the area.
CORE BOXES:	Lidded containers designed to hold core in parallel grooves.
CRIB:	A square or rectangular pillar constructed of timbers that have been laid in alternate cross layers; A crib is created to support the back. The centre of the pillar might be filled with waste or rock.
CROSSCUT:	A horizontal underground tunnel driven perpendicular or at an angle to the strike. Also called a travel way.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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<b>CROSSHEAD:</b>	A guiding device that prevents a bucket from swaying as it is being lowered into a shaft.
<b>CROWN PILLAR:</b>	A horizontal plug or neck of rock left above a mined out area for support.
<b>CRUSHER:</b>	A machine used to reduce the size of ore/waste by crushing.
<b>CUT:</b>	A term used to describe the location and direction of holes that are blasted in order to provide a free face to which other holes are blasted. A cut is also a slice or lift taken during stoping operations.
<b>CUTOFF or CUTOFF HOLE:</b>	A portion of a charged hole that has been broken or isolated as the result of ground movement.
<b>DEADMAN:</b>	A buried log, concrete structure, or object that functions as an anchor. A deadman is also a block used on an incline to guard against runaway cars.
<b>DECANTATION:</b>	The separation of a liquid from sediment by taking the liquid out without disturbing the sediment.
<b>DECK:</b>	One of the separate platforms or divisions of a cage. Also, sometimes the top level of the shaft is called the deck.
<b>DEGASSING:</b>	A drilling method to relieve gas.
<b>DELAY DETONATOR:</b>	A detonation device that initiates a delayed explosion after a predetermined period of time.
<b>DETONATE:</b>	To cause an explosive agent or mixture to explode.
<b>DETONATOR:</b>	A device used in firing a charge of explosive and includes blasting cap and electric blasting cap.
<b>DEVELOPMENT:</b>	The initial work required to open up or access a mineral deposit, including sinking a shaft and creating drifts, crosscuts and raises.
<b>DIAMOND CUT/ PYRAMID CUT:</b>	A converging pattern of drill holes expected to break a pyramid-shaped volume of rock.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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DIAMOND DRILL:	A rotary type of rock drill using a diamond cutting bit.
DIP:	The angle at which a vein, structure or rock bed is inclined from the horizontal and is measured at right angles to the strike.
DISKING:	A condition of a drill core sample that indicates an area is under high stress. When the rock sample contains many thin slices or disks, the area is under considerable stress.
DISPLACEMENT:	A term referring to changes from one side of a fracture plane relative to the other side of the plane.
DIVIDERS:	Cross-steel or timber members in a shaft that divide it into compartments and which may support brattice, guides, etc.
DOGS:	Mechanical safety devices, used in shaft conveyances, that automatically grab the guides in the shaft in case of rope failure.
DOLLIE:	A drill attachment used for the installation of ground control systems e.g rock bolt, rebar, split set and swellex.
DOWNCAST:	The movement of air downward in a mine.
DOWNHOLE:	A vertically drilled bore hole.
DRAW POINT:	A funnel-shaped opening at the bottom of a stope.
DRIFT:	A horizontal underground opening originally parallel to the strike of an ore body.
DRILL (noun):	Any cutting tool which uses energy to produce a circular hole in rock, metal, wood, or other materials.
DRILL AUGER:	A drill rod, with an external spiral, which expels cuttings from drill hole.
DRILL BIT:	One of a number of cutting tools used to cut circular holes in rock, wood, metal.
DRILL HOLE:	A drilled hole in which rock bolts, explosives charges or blasting agents are placed. Also referred to as a blast hole.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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<b>DRILL STRING:</b>	The assemblage in a drill hole, consisting of drill rods, core barrel and bit or drill rods and bit, which is connected to and rotated by the drill at the collar of the bore hole.
<b>DRIVE/DRIVING:</b>	The process of excavating underground passages. In some mining communities the terms are reserved for the creating of horizontal passages.
<b>DRUM HOIST:</b>	A large, power-driven cylinder or cone on which a rope is coiled to hoist and lower materials and/or personnel.
<b>DRUMMY:</b>	A scaling term describing the sound that is emitted when loose rock is struck by a steel bar or hammer. The muffled sound is similar to that of a drum being struck.
<b>DYKE:</b>	A long, relatively thin body of igneous rock.
<b>EASERS/EASER HOLES:</b>	Holes drilled to lighten the burden in a drill pattern also referred to as helper holes.
<b>ELECTRO-MAGNETIC TEST:</b>	Test using electromagnetic equipment to determine the condition of mine hoist ropes and to identify and locate problems.
<b>EMERGENCY PULL CORD:</b>	A rope or line by which a machine or conveyor can be stopped from a remote location.
<b>END PLATES:</b>	Horizontal shaft timber components, normally the shortest member in a rectangular shaft.
<b>ESCAPE WAY/ EMERGENCY MANWAY:</b>	An opening through which persons may leave the mine or workplace if the normal exit is obstructed.
<b>EXPLORE:</b>	To prospect or search for ore.
<b>EXPLOSIVES:</b>	A substance that is made, manufactured or used to produce an explosion or detonation and includes gunpowder, propellant powder, dynamite, detonating cord, blasting agent, slurry, water gel and detonator.
<b>EYEBOLT:</b>	A rod or bolt having a looped or ring-shaped opening at one end.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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<b>FACE:</b>	Any part of a mine where rock is being worked, such as a drift, crosscut, or stope. In a stope the face is commonly called the breast if the holes are being drilled horizontally. Most commonly, the end of a drift or stope where work is being carried out is called the face.
<b>FAILURE ZONE:</b>	The area or portion of rock, around an opening, that is subject to collapse or movement.
<b>FALL ARREST SYSTEM:</b>	A suitable combination of a belt, a full body harness, a lanyard, an anchor and a rope grabbing device or life line.
<b>FALL OF GROUND:</b>	Rock that falls from the roof or wall as a result of gravity.
<b>FAULTS:</b>	A fracture or fracture zone along which there has been a clearly visible dislocation or displacement of the two sides, relative to one another.
<b>FAULTING:</b>	The moving or shifting that results in the displacement of adjacent rock masses along a break or fracture.
<b>FINE(S):</b>	Tiny particles of crushed rock or ore that are smaller than a specified screen size.
<b>FIRE HAZARD AREA:</b>	<ol style="list-style-type: none"><li>1. An area where a fire hazard may be created by smoking, matches or other means of producing heat or fire and which has been designated as such by the supervisor in charge of the mine, or</li><li>2. A storage area where oil, grease or flammable liquids are stored in excess of 500 litres.</li></ol>
<b>FIRE SUPPRESSION SYSTEM:</b>	An installation for the specific purpose of controlling a fire in a particular place or piece of equipment.
<b>FIRING:</b>	The act of detonating an explosive charge.
<b>FISH PLATES:</b>	Specially shaped steel plates used to join the end of one rail to the next in the track.
<b>FLOOR:</b>	The level working area in a stope, or the flat underlying layer of ore. When the foot wall is the floor, the hard surface in the flat-lying seams is also considered to be the floor.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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<b>FOLDING:</b>	The bending of rock strata that results in geologic structures such as anticlines, synclines, monoclines and isoclines.
<b>FOOTWALL:</b>	The lower wall of any mine opening.
<b>FRACTURE:</b>	A clean break or crack in ore or rock.
<b>FRACTURE ZONE:</b>	A mass or area of rock that has many small, irregular fractures.
<b>FRAGMENTATION:</b>	The process of blasting ore or rock into pieces that are small enough to be easily handled or moved.
<b>FREE FACE:</b>	An open side or area of rock which a charged hole can break.
<b>FRICTION HOIST (KOEPE):</b>	A mine hoist in which conveyances are suspended from both sides of a simple friction pulley which imparts a desired motion. It is distinct from a drum hoist in which case the ropes are wound on individual drums.
<b>FROG:</b>	The centrepiece of a track switch.
<b>FROZEN CUT:</b>	The first holes blasted in a development round that do not break the rock as intended but shatter and cover over with no explosives visible.
<b>GAD:</b>	An iron or steel wedge-shaped tool used to break loose rock or ore that is difficult to scale down.
<b>GALVANOMETER:</b>	An instrument used to detect small electric current. In electric blasting it is used to determine if there are broken wires or short circuits
<b>GANGWAY:</b>	An elevated travel way in a drift, usually of timber construction, used to provide access to pull chutes.
<b>GATHERING ARM LOADER:</b>	A machine used to load muck.
<b>GAUGE RODS:</b>	A device for stabilizing the distance between the rails.
<b>GENERAL FOREMAN:</b>	A person in charge of a section of the mine.



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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GRIZZLY:	A series of bars, rails or other members used to control the size of material passing into an ore/waste pass.
GROUND FAULT SYSTEM:	A sensing device used in electrical circuits that interrupts the power supply when electrical current leaks to ground.
GROUNDING CHAIN:	A sensing device used on rubber tired vehicles to ground shorts and static electricity.
GUARD:	<ol style="list-style-type: none"><li>1. A fixture or attachment used to guard against injury.</li><li>2. A person placed to prevent access to a blast.</li></ol>
GUARDIAN ANGEL:	A device installed in the back to detect ground movement.
HANGING RODS:	Fabricated metal rods used to hang the components of shaft timber (dividers, wall and end plates) and timber in place.
HEADBLOCK:	A length of timber or steel forming the top part of a chute opening.
HEADER:	A large pipe or chamber with several tees or nozzles connected to consuming points (or areas where either water or air is required). A header maintains water pressure and allows water to advance as required.
HEADFRAME:	An arrangement of control valves at the end of a pipe. The steel, timber or concrete frame that supports the hoisting sheaves (grooved or groove-rimmed wheels) over the mine shaft.
HEADING:	Work place in an underground mine.
HITCH:	A notch, step or hole cut in a rock in order to support or hold timber or steel posts, beams, or stalls.
HOIST (verb):	To raise or lower materials or personnel.
HOOD:	A removable, protective cover used over conveyances for shaft inspection.
HUNG LOAD:	Any load of materials that is suspended.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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HYDRAULIC BACKFILL:	Waste material that has been both transported and flushed into place through the use of water.
IGNITER CORD:	A small-diameter cord made of combustible material used to ignite a safety fuse or a series of safety fuses. The igniter cord is designed so that its flame burns at an even rate.
JACK-LEG:	A hand held, pneumatic, percussion drill with a hand controlled pneumatic extension leg.
JIBBING:	A method used to insert the undercutter blade into the face.
JIM CROW:	A portable tool used to bend iron rails.
JOINTS:	Rock fractures that run parallel to a plane or surface and that show little or no visible movement or displacement.
JUMBO OR JUMBO DRILL:	A drill carriage on tracks, rails or tires and with one or more booms or arms which support the drilling machinery.
LAGGING:	<ol style="list-style-type: none"><li>1. Timber placed under the roof of a stope or drift to catch small pieces of rock rather than support the main weight of overlying rocks.</li><li>2. Round timber in various sizes and lengths used underground for staging.</li></ol>
LEACH OR LEACHING:	The natural process of dissolving minerals from rock or ore by draining liquids downward or allowing them to percolate. Also, LEACHING is a chemical process used to extract valuable minerals from ore.
LEAKY FEEDER:	A communication line.
LEVEL:	A horizontal or nearly horizontal plane of interconnected mining areas.
LIFELINE(S):	The part in a fall arrest system that runs from the anchor to the personal safety belt or body harness.
LIFTERS:	Bottom holes in a drift round/raise round slash.



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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LINEAR CURB:	A short berm that runs parallel to the rib to minimize exposure.
LOAD HAUL DUMP (LHD):	A machine powered by electricity, diesel or compressed air which loads, hauls, and dumps ore.
LOADING POCKET:	An excavated storage area in the shaft where rock is transferred from ore pass/waste pass to skip conveyances.
LOCK OUT AND TAGGING:	Safety procedures device used to prevent the activating or energizing of equipment.
LOOSE ROCK:	Fragmented or weak rock that needs to be taken down. Also referred to as LOOSE.
LUX:	A unit of measurement by which light intensity is measured.
MAGAZINE:	On surface, a specially constructed room or building used for the storage of explosives. Underground, a specially prepared and designated area for storing explosives.
MAN WAY:	Any passage normally used for travel from one elevation to another.
MECHANICAL SCALER:	A machine used to remove loose from an opening, usually by a hammering process.
MICROSEISMIC MONITORING:	Using an electronic device to measure subaudible stress noises or changes which occur in the rock. The readings taken by a MICROSEISMIC MONITOR can be used as indicators of rock failure.
MILL HOLE:	An opening for the passage of muck.
MISHOLE:	A drill hole that contains explosives in which all or part of the explosives has failed to detonate.
MUCK (noun):	Rock that has been broken by blasting.
MUCK (verb):	To shovel or load any material.
NIPPING:	Movement of material.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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OLD CUTS:	The remnant of a blasted cut.
OPEN HOLE:	Any unprotected hole through which a person could fall or enter.
OPEN STOPING:	OPEN STOPING involves the removal of the entire ore body without leaving any pillars.
OPERATING MINE:	An underground soft rock mine where production, development and changing conditions require maintenance and installation of infrastructure, ground control and ventilation for the extraction of ore. It is where a worker can demonstrate terminal performance objectives as outlined in a specific module.
ORE:	Mixtures of minerals and waste rock from which at least one mineral can be mined for profit.
ORE PASS:	An opening to accommodate the movement of broken muck.
OVERBREAK:	When rock breaks past the design of the blast.
OVERWIND:	The act of hoisting (or winding up) a cage or skip beyond its safe limits.
PANELS:	A group of working places, usually operated as a unit, separated by large pillars.
P.E.D. SYSTEM:	Personal evacuation device.
PERCOLATION:	The process of allowing a liquid to seep through a solid.
PILOT HOLE:	A small diameter hole used to guide or direct a reamer.
PILLAR:	The engineered support at any opening being excavated in a mine.
PIN SETS:	The base of a structure formed by drilling pin holes in the wall and installing steel pins which support a saddle block for the support of base timbers on beams.
PINCH POINTS:	Any point on a machine or piece of equipment where movement may cause pinching.
POLE BLASTING:	Blasting a box hole or chute using a charge tied to a pole.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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PONY SET:	A small timber set incorporated into the main timber set as additional reinforcement.
POPPING:	The snapping noise heard in the vicinity of recently blasted openings or in highly stressed areas. POPPING sometimes referred to as SPALLING.
PORTAL:	The surface opening to a shaft, tunnel or adit.
POST:	A timber placed in an upright position and used as a support prop.
POST PILLARS:	Very slender pillars used in conjunction with backfill to support the rock.
POWDER:	An often-used term for explosives or blasting agents.
PREMATURE BLAST:	The detonation of an explosive charge earlier than planned. Also referred to as premature firing.
PRIMER:	A small charge placed within the main charge to initiate an explosion.
RAISE:	A vertical or inclined underground opening.
RAMP:	An inclined roadway.
REAM:	To enlarge a drill hole by re-drilling with a special bit.
REFUGE STATION:	An underground area that can be sealed off and used by miners as a refuge against fires and their effects. See regulation 26 of the Occupational Health and Safety Act.
RESIN BOLTING:	A method of roof bolting that involves anchoring the bolt in resin.
ROCK BOLTING:	A manual or mechanized method of securing the back, roof and walls.
ROCKBURST:	A sudden failure of rock.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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ROCK MECHANICS:	The study and mathematical analysis of the behaviour of rock, focusing on the forces that affect rock along planes and faults and around excavations.
ROOM and PILLAR:	A mining method that involves excavating rooms and leaving pillars. This method is often used when the ore is present in a flat seam.
ROTARY DRILL:	A drill which bores or cuts a hole as the drill bit rotates.
ROTARY PERCUSSION DRILL:	A drill which repeatedly strikes the rock surface as it is boring or cutting a hole.
ROUND:	A drill pattern drilled and charged to a predetermined depth to excavate.
RUN LIGHT:	A light which indicates the operational status of equipment.
SAFETY BAY (STATION):	An enlargement in a haulage drift for the safety of people when haulage equipment is being met.
SAFETY FUSE:	A prepared cord, made of combustible materials, used to ignite a detonator or an explosive charge.
SAND BLASTING:	Blasting chunks using a charge set on top of a rock to reduce the size.
SCALING:	Checking, conditioning, removing loose rock from roofs, walls and faces.
SCALING BAR:	A shaft or rod (with a forged or replaceable tip) that is used to pry loose rock from the face, back and walls.
SCRAPER:	Used in conjunction with a slusher to move broken rock.
SCRUBBER:	An exhaust cleaner on a diesel engine.
SECURE GROUND:	Make ground safe from falls by one of the following methods: scaling, bolting, timbering.
SHAFT SINKING:	Excavating a shaft downward, usually from the surface to gain

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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	access to an ore body.
SHALE:	A form of dolomite (rock).
SHEAR:	When structural pressures cause a plane to fracture, resulting in the shifting or displacing of one side of the plane in relation to the other side of the plane.
SHOTCRETING:	Pneumatically applied cement mortar, or shotcrete to prevent decay and provide support on surface of roofs and walls.
SCISSOR TRUCK (LIFT):	A service vehicle used to lift people to another elevation of ground by using ground control and support methods.
SILICOSIS:	A lung disorder caused by the inhalation of silica or quartz.
SILL:	The floor or bottom member of a timber set. Also, SILL refers to the floor of a seam or the bottom floor of a stope.
SINK:	The process or act of excavating a shaft or a slope.
SKIDS:	Planks, logs or beams along which heavy objects can be slid or moved.
SKIP:	Self-dumping type of conveyance in a shaft for hoisting ore/rock.
SKIP DUMP:	The top of the skip compartment in which ore is hoisted from the mine and dumped into ore/waste bin.
SKIP SCROLL:	The track at a skip dump which guides the skip to the dumping position.
SLASH:	The act of drilling and blasting ore from the sides of a passage or stope in order to make the opening wider.
SLIMES:	Extremely fine particles of rock suspended in water.
SLINGS:	Rigging or lifting device used to raise or lower objects.
SLUDGE:	The fine cuttings and water that come from a hole being drilled.
SLUSHER:	A multi drum device used in conjunction with a scraper to move

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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	broken rock.
SLUSHER BLOCK:	A pulley used in slusher operation.
SOUNDING:	Striking or tapping the back and walls of a workplace of a mine using the end of a scaling bar to check for loose rock.
SPACING:	A blasting term that refers to the distance between boreholes.
SPALLING:	The breaking off or flaking of thin layers of rock. SPALLING indicates that the stress levels in the rock are increasing.
SPITTING:	The high-velocity ejection of small fragments of rock that occurs when a rock mass under stress breaks. Sometimes SPITTING is also called SPALLING.
SPOT:	The act of placing an object into position. e.g a car can be spotted under a chute so that the car can be loaded.
STAGING:	A working platform.
STATION OR SHAFT STATION:	An area of the shaft that has been enlarged so it can be used as a landing for the cage. All mining levels will have a landing.
STEMMING:	Clay, sand, slag, drill cuttings, gravel or water that is placed in a borehole to plug the hole and hold the explosive charge in place. Stemming might also be used to separate explosives within the length of a bore hole.
STENCH GAS:	A substance with a distinctive, disagreeable odour, similar to rotten eggs, put into the ventilation and compressed air systems to warn underground workers of fire or other emergencies.
STOCKPILE:	An accumulation or reserve pile of broken ore.
STOPE:	An excavation in a mine where ore is extracted.
STOPER:	A pneumatic drill with a telescopic leg primarily used in raise mining for drilling up holes and bolting the backs of drifts and stopes.
STRESS:	A load or force (mathematically calculated or measured) that is



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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	producing a strain on rock, wood, steel, backfill or other materials.
STRIKE (of a bed):	The intersection of an inclined vein or seam with a horizontal plane. A STRIKE's direction is always at right angles to the tip.
STRINGER:	A narrow vein or veinlet of ore. Also, a STRINGER is a timber or beam connecting two upright timbers or posts.
STULLS:	Large timbers that have been wedged into place between two stope walls and serve as a platform or protective cover.
SUMP:	A catch basin, usually at the bottom of a shaft but also found in other areas of the mine, where damage is collected and then pumped.
SUMPING:	A method of inserting undercutter blade, cutter head, jumbo drill steel into face.
SWITCH BAR:	A component of a track switch throw which joins the points together.
TAILINGS:	The refuse, waste, sediment or tail product that has been left behind after an ore has been processed.
TEARING DOWN:	The dismantling of a rig or drilling equipment so that the area can be blasted or the equipment set up in another site.
TIMBER DOG:	A piece of steel used to hold two timbers together.
TIPPLE OPERATION:	The unloading of cars caused by sideways tipping.
TOE:	The bottom section or portion of a drill hole.
TRACK GAGE/ GAUGE:	The measurement of the distance between the inner edges of railway rails. The term also refers to the diameter of drill bits.
TRAILING CABLE:	An electric cable extending from mobile equipment to power source.
TRAIN:	A connected string of cars that is usually powered by a motor.
TRAVEL WAY:	A passage for personnel, equipment, muck and supplies in a mine.



## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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<b>TROLLEY OR TROLLEY LOCOMOTIVE:</b>	A car that travels on a track or an electric haulage motor which receives its electricity from an overhead trolley wire.
<b>TUGGER:</b>	A small hoist used to move equipment and supplies.
<b>TUNGSTEN CARBIDE:</b>	A hard, highly abrasive material used in cutting edges of drill bits.
<b>TURNTABLE:</b>	A revolving platform used to turn mine cars and locomotives 180 degrees.
<b>UNDERCUT AND FILL MINING:</b>	A mining method that involves creating a working floor with backfill following each production blast.
<b>UPPER:</b>	A hole drilled upwards to be blasted.
<b>VEHICLE SCISSOR LIFT TRACK:</b>	A service vehicle used to elevate personnel and/or material to a desired location to work.
<b>VEIN:</b>	A rock fissure, crack or fracture that is filled with mineralized material.
<b>VENTILATION:</b>	Method of supplying respirable air to the workplace in a mine and of exhausting contaminated air.
<b>VENTILATION DUCTING OR TUBING:</b>	Plastic or sheet-steel piping used to channel air to or from a working place.
<b>VERTICAL CRATER RETREAT:</b>	A bulk mining method that utilizes large diameter holes. Also referred to as Retreat Mining. In vertical crater retreat mining successive cuts are carried out remotely by blasting and cratering the bottom of the drill holes. The ore body is mined from the bottom up.
<b>WAGON DRILL:</b>	A light wagon, similar to a jumbo, that carries one or more mounted rock drills.
<b>WALL PLATE:</b>	The longest piece of timber in a set of shaft timbers which fit horizontally in a shaft.

## **BASIC UNDERGROUND SOFT ROCK MINER - COMMON CORE**

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WASTE:	<ol style="list-style-type: none"><li>1. Rock that has no mineral value.</li><li>2. Refuse material.</li></ol>
WASTE PASS:	An opening to accommodate the movement of broken rock.
WEDGE:	A piece of wood or metal having two principal faces that met to form a sharp wedge.
WEDGE BLOCKS:	Rock that is bound by intersecting joint or fault planes and has a tendency to fall unless supported (by rockbolts, pillars or screen).
WHEEL CHOCK:	Wedge shaped piece of material used to prevent mobile equipment from rolling.
WHIP CHECK:	Cables attached to hoses and equipment to retard backlash in the event of disconnection under pressure.
WIGGLER:	An emergency stop mechanism on a gathering arm loader.
WINZE:	A shaft that is collared underground.
WIRE MESH:	A ground support mesh, screen or fencing that works with rockbolts to contain small pieces of rock, preventing them from falling in between the bolting pattern. WIRE MESH or screen acts as a stabilizing force when attached to a rock surface.
WORK OR WORKING:	The process of mining. Also refer to the shifting, moving or squeezing of rock
WORKINGS:	Underground excavations from which ore is being extracted (or has been extracted).

